

**REMARKS**

The above claim amendments are submitted along with the following remarks to be fully responsive to the outstanding final Office Action mailed April 5, 2007. It is further submitted that this response is timely filed within the three month shortened statutory period, as extended by the one-month extension of time filed herewith. A check in the amount of \$1,260 is enclosed herewith, which includes the \$120 one-month extension fee. Reconsideration of all outstanding grounds of objection and rejection and allowance of the subject application are respectfully requested.

**Amendments and support therefore**

The specification has been amended to correct certain typographical and grammatical errors, as well as to provide consistency of term usage. No new matter has been added with these amendments, as support for the same can be found throughout the application as filed. In particular, support for the material added to page 10, starting at line 1 can be found in the specification as originally filed, beginning at page 13, line 25, and bridging to page 14, line 13.

Upon entry of this amendment, claims 25, 26, 27, 30 and 32 will have been amended, claim 31 will have been canceled and claims 51-62 will have been added. Claim 25 has been amended to correct minor typographical/grammatical errors, and to recite that the detergent composition recited therein is for use in the manual washing of ware, e.g., pots and pans. Support for this amendment can be found in the specification at page 6, lines 15-20, as well as Example 2, wherein detergent formulations of the present invention are shown to provide amounts of foam unsuitable for use in automatic dishwashers.

Claim 26 has been amended to recite that the anionic surfactant is neutralized by the alkali metal salt and that the composition further comprises an effective hardening amount of a hydratable inorganic salt. This amendment, as well as the amendment to claim 27 to specify that the hydratable inorganic salt comprises a magnesium salt, and the amendment to claim 32 to recite particular magnesium salts, have been made to clarify that which is believed to have already been made clear by the specification, i.e., that the magnesium salt may either be included in the neutralization step or the hardening step, but whatever the case may be and regardless of whether it is also functioning to neutralize the anionic surfactant or harden the detergent composition, it is expected to also provide the advantageous enhanced grease removal described in the specification at page 8, lines 11-17. These amendments can further find support in the specification at page 11, lines 26-39, as well as Example 9, showing the use of a variety of magnesium salts in the present detergent compositions. Claim 31 is redundant over amended claim 26, and has been canceled.

Claim 30 has been amended to recite that the polyethylene glycol included in the detergent composition desirably has a molecular weight of from about 1450 to about 8000. Support for this amendment can be found at page 11, lines 19-22, and at page 26, lines 5-9.

New claims 51-54 have been added, directed to the detergent composition further comprising an amount of an aqueous medium that may be included as a separate ingredient or as part of a liquid ingredient or premix. Support for these claims can be found in the specification at page 10, lines 1-9, and at page 17, lines 20-25. New claims 55-58 have also been added, directed to a detergent composition comprising an amphoteric surfactant in place of the alkylpolyglycoside recited in claim 25. Support for these claims can be found in the specification at page 9, lines 20-23, and in Example 6, formulations 36-42. Finally, new claims 59-62 have also been added and are directed to a process for providing a packaged solid detergent composition. Support for these claims can be found in the specification at e.g., page 16, line 8 through page 21, line 12.

### **The Inventive Detergent Compositions and Processes**

The present invention provides detergent compositions that are conveniently and expediently provided in a solid form. As is discussed in the specification at page 1, lines 13-27, solid block detergents provide substantial benefits to both the manufacturer (in that manufacturing and shipping costs can be substantially reduced, solid block forms offer improved handling and safety, and even enhanced efficacy in that greater concentrations of active components may be included that yet do not separate during transportation and/or storage) as well as the consumer (a convenient format that yet cleans hard surfaces effectively). As is further discussed, prior to the present invention, the art had struggled to provide such solid detergent compositions that could provide sufficient useful quantities of foam and also effectively remove greasy soil from hard surfaces, as is required in warewashing, and in particular, as may be required in manual warewashing of, e.g., pots and pans. Specification, page 5, lines 1-7, and page 6, lines 16-19. Many of the proposed solutions have proven suboptimal for cost, safety and/or efficacy reasons. See, e.g., specification at page 3, lines 3-16, wherein various extruded solid blocks are discussed that require the use of a caustic, hydratable alkaline source to facilitate hardening of the block after extrusion. The use of a caustic solution can be undesirable in a manufacturing environment, and can further act to increase the pH of the hydrated detergent above that which would be suitable for manual warewashing.

Yet, Applicants persevered and developed the composition now recited in claims 25 and 55 – a detergent composition comprising an amount of an anionic surfactant neutralized by an alkali metal, an alkaline earth metal, or mixtures thereof; an alkyl polyglycoside (claim 25) or an amphoteric surfactant (claims 55-58); a nonionic surfactant, such as an alcohol alkoxylate; and a hardening amount of polyethylene glycol and/or a hydratable inorganic salt. As Applicants surprisingly discovered, this

combination of ingredients can be extruded or cast with minimal or no additional heat supplied to the extrusion/casting process, thereby not only minimizing the safety and cost concerns as may be associated with the use of heat, but also allowing the use of heat sensitive ingredients. See, specification, page 2, lines 23-20. Since the detergent compositions exit the mixer at substantially ambient temperatures, they may be discharged directly into the desired packaging receptacle (providing a time savings via the omission of a cooling step) and furthermore, that receptacle may be substantially less sturdy, and thus more cost effective, than a packaging receptacle that would be required, e.g., for the direct discharge of a molten product. This process is thus now recited in newly added claims 59-62. Further, because substantial cooling time is not required, the detergent compositions according to the invention solidify in a commercially acceptable amount of time, i.e., in less than 3, 2 or even less than 1, hour[s], perhaps also due to the inclusion of the specified organic or inorganic hardening agents, i.e., PEG and/or hydratable inorganic salts. See, specification, page 19, lines 20-27. Advantageously, these hardening agents provide substantial safety benefits over those previously used for this purpose, e.g., caustic hydratable alkaline sources. Specification, page 3, lines 14-16.

Additional advantages are provided to a consumer utilizing the solid detergent compositions for the manual washing of ware. That is, once diluted with water, the detergent compositions form an aqueous detergent with stable foam, excellent soil removing capacity and even increased greasy soil removing capacity. Specification, page 6, lines 16-19. While it is believed that the particular components of the present detergent compositions may work alone to provide certain of the benefits of the present detergent compositions, it is important to note that they work synergistically together at least to provide improved greasy soil removal capability above and beyond what the use of any alone, or even two together, could provide. See, e.g., Example 5, wherein a detergent composition according to the invention and comprising a sodium salt, a magnesium salt and an alkyl polyglycoside exhibited far superior grease removal performance than a detergent composition comprising only a magnesium salt and an alkyl polyglycoside or only a sodium salt with the alkyl polyglycoside. See also Example 6 where similar improvements in grease removal can be seen via the use of a sodium salt, a magnesium salt and an amphoteric surfactant.

Finally, the improved detergent compositions, by virtue of the inclusion of the particular surfactant package recited, also produce useful quantities of foam for manual ware washing applications. That is, and whereas substantial amounts of foam are considered a detriment in detergent compositions for use in automatic dishwashers, causing foam leakage at best and potential pump damage at worst, substantial amounts of foam are required for consumer acceptance and/or satisfaction of a manual warewashing detergent. Anionic surfactants are particularly good foam producers, but their use in manual warewashing detergents can be contraindicated if their inclusion in the amounts required to produce the

quantity of foam desired would result in a pH that could cause drying of, or other damage to, the skin. In the present inventive detergent compositions, the alkali metal and/or the alkaline earth metal salt, in addition to acting synergistically with the alkyl polyglycoside or amphoteric surfactant to remove greasy soil, also act to neutralize the anionic surfactant, so that an amount can be utilized that will result in the production of useful foam, but yet not lower the pH of an aqueous solution the detergent composition to a level that could cause substantial drying of, or other damage to, the skin.

**Rejection of claims 25-28, 30, 31, 39, 40, 42, 44-46 and 50 under 35 USC 103(a) as being unpatentable over Menke et al**

The Examiner has rejected claims 25-28, 30, 31, 39, 40, 42, 44-46 and 50 under 35 USC 103(a) as being unpatentable over Menke et al, USP 5,759,974. More particularly, the Examiner spends several pages pointing to particular teachings within Menke and then reaches the conclusion that although Menke et al 'do not teach with sufficient specificity, a solid detergent composition containing an anionic surfactant, and alkali metal salt, alkyl polyglycoside, a nonionic surfactant, a hardening agent, and the other requisite components of the compositions in the specific proportions recited by the instant claims', it would have been obvious to one of ordinary skill in the art, to formulate Applicants' inventive detergent composition. Because, the Examiner asserts, 'the broad teachings of Menke suggest a solid detergent composition containing an anionic surfactant, an alkali metal salt, alkyl polyglycoside, a nonionic surfactant, a hardening agent, and the other requisite components of the compositions in the specific proportions as recited by the instant claims.' Claims 25-27 and 30 having been amended and claim 31 having been canceled, this rejection as applied to these claims is rendered moot. To the extent that the rejection is yet deemed to apply to the amended claims, and with respect to claims 28, 39, 40, 42, 44-46 and 50, it is respectfully traversed.

Menke et al. teach block form cleaners for use in cleaning and disinfection of flush toilets. Menke, column 1, lines 15-17. More particularly, the cleaners of Menke were developed in response to an art-recognized need for toilet bowl cleaners that could act in a substantially automatic manner, i.e., as by placement in a toilet bowl or cistern so that the active ingredients thereof are released to the toilet bowl upon each flush. Menke, column 1, lines 19-28. Such automatic toilet bowl cleaners have apparently long suffered from the problem of decreasing performance over their useful life due to the fact that the surface area from which the actives may be released decreases upon every flush. Menke, column 1, lines 35-43. The art responded to this need by overloading such toilet bowl cleaner blocks with actives and/or perfume to ensure that a sufficient quantity of perfume or actives were still being released at the end of the life of the toilet bowl cleaner. Of course, this created the new problem of over-releasing actives and perfume when the block was new, and at its largest surface area.

To address this need, Menke sought to provide a toilet bowl cleaning block capable of the uniform release of active substances over the entire life of the block. To this end, Menke proposed an extruded block of at least two compositions, one surrounding the other, and differing from each other at least in that they had one active substance in common, which was present in the inner mass in a greater quantity than in the outer mass. By virtue of this increased concentration in the center of the block, Menke argues that the inventive block provides a substantially uniform release of the common active substance. The improved release profile of the Menke toilet cleaning block thus is not at all reliant upon the identity of the active ingredients. Rather, whatever the active ingredients, they are provided in a bi-layered composition wherein the internal layer has a greater concentration of at least one or more of the active ingredients than is present in the outer layer:

The composition of the individual masses which together form the cleaning blocks according to the invention may be substantially the same except for the different contents of active substance.

Thus, Menke does not particularly limit what may, or may not be, in their improved toilet bowl cleaner. It can include practically anything – so long as the inner layer contains an amount of at least one ingredient in an amount greater than the outer layer:

Any of the substances hitherto used for the production of cleaning blocks for toilets may be used for the production of the masses. These substances include, in particular, surfactants, disinfectants and bleaches, enzymes, salts, acids, complexing agents, fillers, dyes, perfume, erosion regulators and plasticators [sic]. Surfactants, disinfectants, bleaching agents, enzymes, acids, complexing agents, dyes and perfume are regarded as active substances in the context of the present invention, whereas such substances as erosion regulators and plasticators, salts and fillers, which for the most part act solely as consistency promoters and moderators for the erosion rate, do not count as active substances in the context of the invention. Preferred active substances in the context of the present invention are perfume, complexing agents, acids, disinfectants, bleaches and enzymes, perfume being particularly preferred. Where several substances which count as active substances are present in the cleaning blocks, it is sufficient in accordance with the invention for one of these active substances to satisfy the above stated requirement that is [sic] should be present in the higher concentration in the surrounded mass. Menke, column 3, lines 18-38.

More specifically, the Menke toilet bowl cleaners may comprise “surfactants from all known classes”, including anionic, nonionic, cationic, amphoteric surfactants. Three subclasses of anionic surfactants are identified<sup>1</sup>, and seven possible subclasses of nonionic surfactants.<sup>2</sup> And, there are two

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<sup>1</sup> Those of the sulfate and sulfonate type, salts of fatty acid cyanamides or ‘salts of alkyl ether carbocyclic acids obtainable from ethoxylated long-chain alcohols and chloroacetic acid’, Menke, column 3, lines 40-55)

<sup>2</sup> “adducts of 1 to 100 moles of ethylene oxide with 1 mole of an aliphatic (or alkyl) aromatic compound essentially containing 10 to 20 carbon atoms from the group of alcohols, alklyphenols, fatty acids and fatty acid amides, although other types, such as the ethylene oxide adducts with propylene oxide and the condensation

candidates identified for possible inclusion as either cationic or amphoteric surfactants.<sup>3</sup> Although each of the anionic or nonionic subclasses could include hundreds of compounds, for the sake of illustration, we will assume that there are only 12 possible surfactants, one for each subclass and each of the cationic and amphoteric examples, that may, or may not, be used in Menke's toilet bowl cleaners.

The toilet bowl cleaners of Menke may also, or may not if no germ-inhibiting treatment is desired, include an amount of one or more disinfectants. Menke et al teach that 'antimicrobial agents may emanate from various chemical classes' and state that useful disinfectants are generally considered to 'emanate from' the classes of phenols, substances that give off active chlorine and substances containing active oxygen. Although this definition could again include hundreds of compounds, giving Menke the conservative reading, it will include at least those listed as preferred – or 7 compounds.

One or more enzymes may also be present in the toilet bowl cleaning compositions of Menke – as may be important to support 'the effectiveness of cleaning, particularly against fecal and fat containing deposits in the toilet and pipe system'. Lipases are taught to be useful for this purpose, as are any enzymes which produce active oxygen, such as peroxydases and oxydases. Assuming each subclass includes only one member, there are three possible enzymes that may, or may not, be in Menke's toilet bowl cleaning blocks.

The cleaning blocks of Menke may also include complexing agents for water hardness to reduce the effects of heavy metal ions on a consumers toilet bowl – there are 4 classes listed, each of which may include tens if not hundreds of compounds. Assuming that each contains just one member, there are four possible complexing agents which may, or may not, be included in Menke's toilet bowl compositions.

The Menke et al toilet bowl cleaners also desirably include active substances to prevent limescale formation in the toilet bowl. Acids are taught to be useful for this purpose, and particularly those that 'do not form poorly soluble calcium salts' – seven examples of these are given.

Dyes may also be included in Menke's composition. Apparently this is one way that consumers can tell if their toilet bowl cleaning composition is still working. Water soluble dyes that are blue and green in color are preferred, and there must be at least tens, if not hundreds of these, commercially available. Menke mentions only one in particular.

Perfume is particularly preferred for use in the toilet bowl cleaners of Menke et al. The uniform release of perfume is said to be particularly sought after by consumers and so, the particular perfume to be included in the Menke toilet bowl cleaners is not particularly limited but may be any perfume that does not substantially interfere with the other constituents. One can only imagine how many fragrances are commercially available –for the sake of conservative argument, there are 6 exemplified by Menke et al:

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products of long-chain primary alcohols and reducing sugars, which are known as the alkyl glycosides, may also be used." Menke, column 4, lines 13-29

<sup>3</sup> Distearyl dimethyl ammonium chloride and alkyl betaine. Menke, column 4, lines 30-31.

generic 'perfume oil', 'perfume oil citrus note', 'perfume oil flowery note', 'perfume oil apple note', 'perfume oil spruce note' and 'perfume oil wintergreen'.

The Menke toilet bowl cleaners also desirably include erosion regulators to control the degradation of the toilet bowl cleaners in such a way that they remain effective to the end of their useful life. There are 5 classes of polymeric compounds identified as being useful for this purposes – including ranges of 12 to 18 carbon atoms and ranging in molecular weight from about 1500 to 50000 (no units given by Menke). For the sake of conservative argument, we will assume there is only one member of each class.

Also potentially, but not necessarily, included in Menke's toilet bowl cleaners are plasticizers. These include 'high-boiling organic substances which are liquid at the processing temperature, e.g., paraffin oils, 1,2-propylene glycol, silicone oils, phthalic acid esters, terpenes and dihydroabietic esters'. Again, while this definition could include hundreds of compounds, for arguments sake, we will again assume one per subclass, or 6 possible plasticizers.

Of course, the toilet bowl cleaning compositions of Menke may also include inorganic salts as they may influence the consistency and erosion behavior of the inventive cleaning blocks. These can include polyphosphates, alkali metal silicates, alkali metal or ammonium salts of mineral acids, sodium salts of sulfuric acid, phosphorus acids, carbonic acid and hydrochloric acid. As a conservative estimate, there are 8 possible inorganic salts that may be used in Menke's toilet bowl cleaners.

Not to mention that the toilet bowl cleaners of Menke et al can include 'additives typically encountered in block-form toilet cleaners to round off the property spectrum of the cleaning blocks.' Fillers and preservatives are but two examples given.

So, either or both masses of Menke's toilet bowl cleaners may (or may not) comprise at least: twelve different surfactants, seven different disinfectants, three different enzymes, four different complexing agents, seven different limescale preventative agents, one dye, six perfumes, five erosion regulators, six plasticizers, eight inorganic salts, and two 'additives typically encountered in block-form toilet cleaners'.

There are thus, conservatively, 61 members from which to choose groups of, e.g. the 11 things that may (or may not) be included in the toilet bowl compositions of Menke. Mathematically, the formula to calculate the number of possible combinations of 11 things from a group of 61 is:  $P(61,11) = 61!/(61-11)! = (61 \times 60 \times 59 \times 58 \dots \times 1) / (50 \times 49 \times 48 \dots \times 1) = 5.076 \times 10^{83} / 3.04 \times 10^{64} = 1.669 \times 10^{19}$  – or about 16.69 trillion possible combinations of 11 members. While there is absolutely no teaching or suggestion in Menke of how or why to pick and choose among the 11 possible elements so as to arrive at any group of 5 elements, much less the group of 5 elements recited in the present claims, granting even this favor to Menke, there are:  $P(61,5) = 61!/(61-5)! = 5.076 \times 10^{83} / 7.11 \times 10^{74} = 7.139 \times 10^8$  – more than 713 million

possible combinations of five things. “Broad teachings” indeed. It is Applicant’s position that these ‘broad teachings’ could not possibly lead one of ordinary skill in the art to the particular combination of elements recited in the present claims under any circumstances, much less absent any teaching, suggestion or motivation on the part of Menke et al to do so.

In fact, it is further Applicant’s position that the Examiners statement that the ‘broad teachings of Menke’ suggest the present detergent compositions is legally insufficient to support a *prima facie* case of obviousness. Rejections on obviousness grounds cannot be sustained on mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *In re Kahn*, 78 USPQ2d 1329 (Fed. Cir. 2006), *In re Lee*, 277 F.3d 1338 [61 USPQ2d 1430] (Fed Cir. 2002). That is, in order to establish a *prima facie* case of obviousness the Examiner must articulate the basis on which it concludes that it would have been obvious to make the claimed invention. *In re Rouffett*, 149 F.3d 1350 [47 USPQ2d 1453] (Fed. Cir. 1998). In practice, this requires that the Examiner ‘explain the reasons one of ordinary skill in the art would have been motivated to select the references and to combine them to render the claimed invention obvious’. *Id.* at 1357-1359. Even more specifically, in each of *Lee* and *Rouffet*, the Board was able to identify the requisite motivation to combine *based upon particular statements in the references and on the nature of the problem to be solved*.

The Examiner has pointed to no such statement in Menke – but rather has made only the conclusory statement that the broad teachings of Menke are sufficient to provide the motivation to one of ordinary skill in the art to modify the toilet bowl cleaner of Menke to arrive at Applicant’s present detergent composition. However, there is no teaching, suggestion, or even mere mention, of any reason, much less advantage, to picking and choosing the particular 5 components recited in Applicant’s claims from the at least conservatively counted 61 possibilities taught by Menke. Relying on random chance would mean picking and choosing from more than 713 million possible combinations of 5 members to arrive at the claimed invention. If this amount of ‘experimentation’ (experimentation typically requiring a goal, not provided by Menke’s toilet block, nor the art recognized need that drove its development) is not undue, it would be difficult to imagine what amount of experimentation would be.

Furthermore, one of ordinary skill in the art in possession of Menke would have absolutely no motivation to alter the teachings therein to arrive at a block detergent useful for the manual washing of pots and pans that could provide useful quantities of foam and yet be effective at both grease and soil removal. The teachings of Menke are directed to a toilet bowl cleaning composition that does not suffer from the art recognized problem of reduced efficacy over its useful life. Even if one of skill in the art would consider a toilet bowl cleaner useful in the cleaning of ware, the teachings of Menke are not even directed to the manual cleaning of toilets – but rather an automatic toilet bowl cleaner. So, providing a

composition not irritating to the skin is not important to Menke. Nor is the production of useful quantities of foam – Menke et al are more concerned with the uniform release of perfume. Finally, Menke et al are not concerned with the provision of a composition that exhibits enhanced grease and soil removal – Menke et al are concerned with removing the ‘fecal and fat containing deposits’ typically present in toilet bowls, and yet unlikely to be encountered in the washing of ware.

Indeed, the only way to arrive at Applicants’ invention from the teaching of Menke, is via the impermissible application of hindsight. The fact that the Examiner has not provided the requisite explanation for the finding of teaching, motivation or suggestion, that would have lead the skilled worker to the claimed combination as a whole further supports the assertion that hindsight was used to support the conclusion of obviousness. *Rouffett*, 149 F3d at 1358. Similarly, the fact that the Examiner has relied upon arguably non-analogous art supports the assertion that the Examiner has relied upon hindsight in reaching his obviousness determination. *In re Oetiker*, 977 F2d 1443, 1447 [24 USPQ2d 1443] (Fed Cir 1992) (“The analogous art test requires that the Board [sic] show that a reference is either in the field of the applicant’s endeavor or is reasonably pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection...the combination of elements from non-analogous sources, in a manner that reconstructs applicant’s invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness”)

Although Applicants thus believe that they have clearly shown that the Examiner has failed to make a *prima facie* case of obviousness, it is Applicants’ further assertion that, even if the Examiner has, the unexpected and synergistic results achieved by the particular combination of elements contained in the inventive detergent composition are sufficient to overcome any such *prima facie* case. As discussed above, those detergent compositions with a combination of an alkali metal and an alkaline earth metal salt, in further combination with either an alkyl polyglycoside or an amphoteric surfactant, provide better greasy soil removal and/or foam performance than those detergent compositions comprising only one or two of these elements. Such synergistic results were clearly not expected in the relevant art, and thus, are sufficient to overcome any *prima facie* case of obviousness the Examiner may have even arguably established based upon the Menke reference.

In sum, Applicants respectfully assert that the Examiner has not established a *prima facie* case of obviousness, and cannot do so, based upon the Menke reference. Any such case is rather likely to be based upon the Menke reference in combination with impermissible hindsight. Even assuming that such a case could be made, the synergistic effects that can be seen in a detergent composition comprising an alkali metal and an alkaline earth metal in further combination with an alkyl polyglycoside or an amphoteric surfactant, would be sufficient to rebut it. The withdrawal of the obviousness rejection of

claims 25-28, 30, 39, 40, 42, 44-46 and 50 over Menke et al. is thus appropriate and is respectfully requested.

**Rejection of claims 25-28, 30, 31, 34, 39, 40, 42, 44-48 and 50 under 35 USC 103(a) as being unpatentable over Herbots, WO 99/02638**

The Examiner has rejected claims 25-28, 30, 31, 34, 39, 40, 42, 44-48 and 50 under 35 USC 103(a) as being unpatentable over Herbots, WO 99/02638. As with Menke, the Examiner spends several pages pointing to particular teachings within Herbots and then reaching the conclusion that although Herbots et al ‘do not teach with sufficient specificity, a solid detergent composition containing an anionic surfactant, and alkali metal salt, alkyl polyglycoside, a nonionic surfactant, a hardening agent, and the other requisite components of the compositions in the specific proportions recited by the instant claims’, it would have been obvious to one of ordinary skill in the art, to formulate Applicants’ inventive detergent composition. And again the Examiner asserts, ‘the broad teachings of Herbots suggest a solid detergent composition containing an anionic surfactant, an alkali metal salt, alkyl polyglycoside, a nonionic surfactant, a hardening agent, and the other requisite components of the compositions in the specific proportions as recited by the instant claims.’ Claims 25-27 and 30 having been amended and claim 31 having been canceled, this rejection as applied to these claims is rendered moot. To the extent that the rejection is yet deemed to apply to the amended claims, and with respect to claims 28, 34, 39, 40, 42, 44-46 and 50, it is respectfully traversed.

Herbots is directed to detergent compositions, particularly suited for the removal of body soils. See, e.g., Herbots, Field of the Invention. Body soils are taught by Herbots to be particularly difficult to remove due to their complex nature, and as such, rather than being completely removed upon laundering, typically leave residue that can build up to lead to dinginess and yellowing. Herbots, page 1, paragraph 3. In order to address these problematic stains, Herbots developed an enzymatic bleaching system, comprising an oxygenase that is allegedly effective in cleaning such dingy materials, as well as being effective for whiteness maintenance and stain removal. Herbots, page 2, paragraph 5. Although an explanation is not provided for exactly how body soils may be problematic in this application, the detergent compositions of Herbots are also taught to be useful in dishwashing compositions.

Similar to Menke, the other ingredients that may be included in the detergent composition are not of particular importance to Herbots, i.e., the improvement is provided merely by the inclusion of the oxygenase bleaching system. Another bleaching system is preferably included (Herbots, page 8, paragraph 3), and when formulated for use in dishwashing methods, so are surfactants, and “other detergent compounds” selected from organic polymeric compounds, suds enhancing agents, group II metal ions, solvents, hydrotopes and additional enzymes. Herbots, page 9, paragraph 2.

Preferred additional detergent ingredients include conventional, activated, other enzymatic, and/or metallo-, based bleach systems. The description of these bleaching agents spans 14 pages, and lists 62 bleach systems that are particularly preferred for inclusion in the Herbots detergent composition.

Herbots describes surfactants suitable for use in their detergent compositions starting at page 29 and extending to page 44. Any type of surfactant may be included, including nonionic, anionic, cationic, ampholytic, zwitterionic and/or semi-polar surfactants.

Color care and fabric care (page 44) technologies may also be included in the detergent compositions of Herbots, as may builder systems (page 45-47), chelating agents (page 47-48), suds suppressors (pages 48-49), dispersants (pages 52-53), dye transfer inhibitors (pages 53-58) and 'other components', including soil-suspending agents, soil-release agents, optical brighteners, abrasives, bactericides, tarnish inhibitors, coloring agents and/or encapsulated or non-encapsulated perfumes (pages 49-52).

Without going through the same exercise as above in connection with the Menke reference, it is clear that the result of such a calculation would show that the possible combinations of 5 elements from the voluminous possibilities taught by Herbots would number even over the hundred trillion mark. As it was Applicants' position with the similarly 'broad teachings' of Menke, it is also Applicants' position that the 'broad teachings' of Herbots could not possibly lead one of ordinary skill in the art to the particular combination of elements recited in the present claims under any circumstances, much less absent any teaching, suggestion or motivation on the part of Herbots to do so.

It is further Applicant's position that the Examiners statement that the 'broad teachings of Herbots' suggest the present detergent compositions is legally insufficient to support a *prima facie* case of obviousness. As with Menke, the Examiner has not pointed to particular statements in Herbots that would provide the requisite motivation to modify the teachings therein to arrive at Applicants' invention, or even any 'explanation of reasons why' one of ordinary skill in the art would have been motivated to pick and choose from the hundreds of thousands of possible ingredients taught by Herbots to arrive at the present inventive detergent composition. *In re Kahn*, 78 USPQ2d 1329 (Fed. Cir. 2006), *In re Lee*, 277 F.3d 1338 [61 USPQ2d 1430] (Fed Cir. 2002), and *In re Rouffett*, 149 F.3d 1350 [47 USPQ2d 1453] (Fed. Cir. 1998). The conclusory statement that the 'broad teachings of Herbots' provide this motivation simply because the elements of Applicants' detergent composition are within its teachings (as are many many other things) simply cannot be said to fulfill this requirement.

It may very well be that the Examiner has not pointed to any such statement in Herbots simply because there isn't one. Although the teachings of Herbots are not as far afield as those of Menke, there is simply no motivation provided to alter the teachings therein to arrive at a block detergent useful for the manual washing of pots and pans that could provide useful quantities of foam and yet be effective at both

grease and soil removal. Rather, the teachings of Herbots are primarily directed at detergent compositions particularly well suited for the removal of body soils, deemed by the laundering art to be especially problematic. In fact, via the inclusion of an oxygenase, along with at least one other enzymatic bleaching system, the Herbots composition is simply not something the average consumer would want to submerge their hands into for any amount of time. Furthermore, it would appear that Herbots recognizes this, as the closest examples (those describing a block formulation for the washing of ware)<sup>4</sup>, are directed to formulations useful in automatic dishwashers. That is, these formulations include carbonate, bicarbonate, silicate and metasilicate, also considered too harsh for manual warewashing applications, and do not include a nonionic surfactant, understood by those of skill in the art to provide the amount of foam required for manual warewashing applications. So, although Herbots purports that the removal of body soils is necessary and advantageously accomplished via their detergent compositions as applied to ware, the compositions taught for this purpose are not useful in the manual washing of ware, but rather are limited to automatic warewashing applications.

Indeed, those of ordinary skill in the art would not be motivated to modify the teachings of Herbots to arrive at the present invention because each and every embodiment of Herbots detergent compositions requires at least the presence of an oxygenase, and desirably at least one other enzymatic bleaching system. As discussed above, those of skill in the warewashing art understand that enzymes, or other bleaching components, are not desirably included in detergent compositions intended for use in the manual washing of ware because of the drying or other damage they could cause the skin. Yet, this bleaching system is what Herbots alleges provides the patentable advantage to their detergent composition. As such, one would have to depart from the teachings of Herbots to arrive at the present invention, and such a departure is simply not supported by the teachings of Herbots.

Again, and as with Menke, the only way to arrive at Applicants' invention from the teaching of Herbots is via the impermissible application of hindsight. The fact that the Examiner has not provided the requisite explanation for the finding of teaching, motivation or suggestion, that would have lead the skilled worker to the claimed combination as a whole further supports the assertion that hindsight was used to support the conclusion of obviousness. *Rouffett*, 149 F3d at 1358. Similarly, the fact that one would have to depart from the teachings of Herbots and recombine 5 of the thousands of possibilities taught therein in order to arrive at Applicants' invention further supports the assertion that the Examiner has relied upon hindsight in reaching his obviousness determination. *Eli Lilly and Co. V. Zenith Goldline Pharmaceuticals Inc*, 471 F.3d 1369, [81 USPQ2d 1324] (Fed. Cir. 2006).

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<sup>4</sup> Of the 28 examples provided, it is believed (acronyms are used to describe the ingredients in each exemplified formulation-definitions for these acronyms consume over 4 pages, and no classification of each ingredient, i.e., as 'surfactant', builder, etc. is provided) that Examples 19, 21, 27 relate to block compositions, and more particularly, that Examples 19 and 21 relate to block compositions useful for the washing of ware.

Although Applicants thus believe that they have clearly shown that the Examiner has failed to make a *prima facie* case of obviousness, it is Applicants' further assertion that, even if the Examiner has, the unexpected and synergistic results achieved by the particular combination of elements contained in the inventive detergent composition are sufficient to overcome any such *prima facie* case. As discussed above, those detergent compositions with a combination of an alkali metal and an alkaline earth metal salt, in further combination with either an alkyl polyglycoside or an amphoteric surfactant, provide better greasy soil removal and/or foam performance than those detergent compositions comprising only one or two of these elements. Such synergistic results were clearly not expected in the relevant art, and thus, are sufficient to overcome any *prima facie* case of obviousness the Examiner may have even arguably established based upon the Herbots reference.

In sum, Applicants respectfully assert that the Examiner has not established a *prima facie* case of obviousness, and cannot do so, based upon the Herbots reference. Any such case is rather likely to be based upon the Herbots reference in combination with impermissible hindsight. Even assuming that such a case could be made, the synergistic effects that can be seen in a detergent composition comprising an alkali metal and an alkaline earth metal in further combination with an alkyl polyglycoside or an amphoteric surfactant, would be sufficient to rebut it. The withdrawal of the obviousness rejection of claims 25-28, 30, 34, 39, 40, 42, 44-48 and 50 over Herbots is thus appropriate and is respectfully requested.

**Rejection of claims 34-37 under 35 USC 103(a) as being unpatentable over Menke et al, or Herbots, in further view of Kott et al (USP 6,303,556)**

The Examiner has rejected claims 34-37 under 35 USC 103(a) as being unpatentable over Menke et al, or Herbots, in further view of Kott et al (USP 6,303,556). More particularly, the Examiner asserts that Kott et al make up for the lack of a teaching in either Menke or Herbots of the use of a magnesium salt of [sic] alkyl benzene sulfonate. This rejection is respectfully traversed.

As discussed at length hereinabove, the Examiner has not made out a *prima facie* case of obviousness based upon either Menke or Herbots, and the only way for the Examiner to do so, is via the impermissible application of hindsight, which conclusion is further supported by the fact the Menke is too far afield from Applicants' invention to have been considered pertinent by those of ordinary skill in the art, and that the teachings of Herbots would have to be completely departed from in order to arrive at Applicants' invention. As such, Menke or Herbots are simply not combinable with Kott, or any other reference to arrive at the present invention. Withdrawal of this rejection is thus appropriate and respectfully requested.

**Rejection of claim 32 under 35 USC 103(a) as being unpatentable over Menke et al, or Herbots, in further view of Rolando et al (USP 5,876,514)**

The Examiner has rejected claim 32 under 35 USC 103(a) as being unpatentable over Menke et al, or Herbots, in further view of Rolando et al (USP 5,876,514). More particularly, the Examiner asserts that Rolando et al make up for the lack of a teaching in either Menke or Herbots of the use of an acetate salt. This rejection is respectfully traversed.

As discussed at length hereinabove, the Examiner has not made out a *prima facie* case of obviousness based upon either Menke or Herbots, and the only way for the Examiner to do so, is via the impermissible application of hindsight, which conclusion is further supported by the fact the Menke is too far afield from Applicants' invention to have been considered pertinent by those of ordinary skill in the art, and that the teachings of Herbots would have to be completely departed from in order to arrive at Applicants' invention. As such, Menke or Herbots are simply not combinable with Rolando, or any other reference to arrive at the present invention. Withdrawal of this rejection is thus appropriate and respectfully requested.

CONCLUSION

In light of the foregoing remarks, it is respectfully submitted that the grounds of rejection raised in the pending Office Action have been overcome and that the present case is now in condition for allowance. The prompt issuance of a notice to that effect is solicited.

Respectfully Submitted,  
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